Environmental Protection Agency

EJScreen Batch Processing Tool User Guide - ArcGIS Pro

2021

EJScreen Batch Processing Tools User Guide

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A. EJScreen Batch Processing Tool

This tool was developed to generate EJScreen indicators for a given Geographic Information System (GIS) layer in batch mode, and runs inside Esri's ArcGIS Pro. The input file for these tools can come from either a point feature class in a geodatabase, a point shapefile, or a map layer whose source is one of those two. If a user has a comma separated value (CSV) or Excel spreadsheet with a list of latitude and longitude points, he or she must convert the list to a feature class for ArcGIS Pro before running these tools to generate EJScreen indicators for those points. Each tool clones the source features and then appends EJScreen indicators to the layer in addition to the state, EPA region, and the buffer distance that was used in calculation. In addition, the tool consumes an EJScreen Representational State Transfer (REST) service; therefore, it requires a live Internet connection while running.

B. Downloading the tools and data

The tool is an Esri ArcToolbox tool, and the tool requires block-group based EJScreen data. Both the tool and data can be downloaded from the EPA FTP:
https://newftp.epa.gov/webclient/WebClient.jsf.
The tools and data are in the folder named 'EJScreen/EJScreenData2021'.
After downloading the tools and data, unzip them in a local folder on a system hard drive.

1. Running the tool

To run a tool, first open a Catalog pane inside ArcGIS Pro. Then, create a folder connection to where the tool has been unzipped. If the EJScreen data is unzipped in a different folder, make another folder connection to where the data was unzipped. Now users are ready to run the tools.

2. Computing EJScreen indicators

1. Expand the tool folder until *ejscreenbatch* is shown, as highlighted in the screenshot.
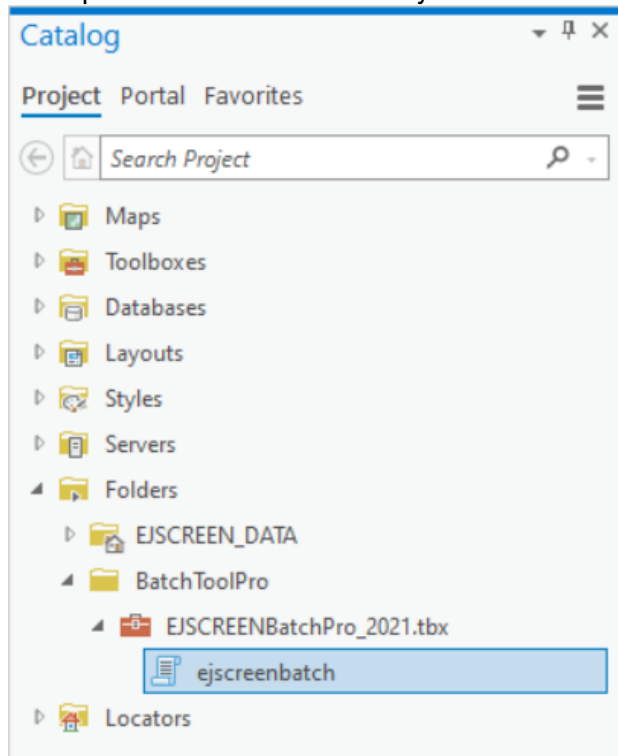
2. Double click on *ejscreenbatch* to launch the tool.

3. Provide the five parameters required to run the tool: the input layer, buffer distance (default: 1 mile), buffer distance unit, EJScreen data file (geodatabase file name), and the output feature class name (file geodatabase instead of Shapefile). The *Output,* in file geodatabase only, is automatically populated with a layer name inside scratch.gdb under the ArcGIS document folder (use the default if possible). Input can be selected from the file explorer or by dragging and dropping the items from the catalog pane. Additionally, map layers that reference point features can be selected from the dropdown.
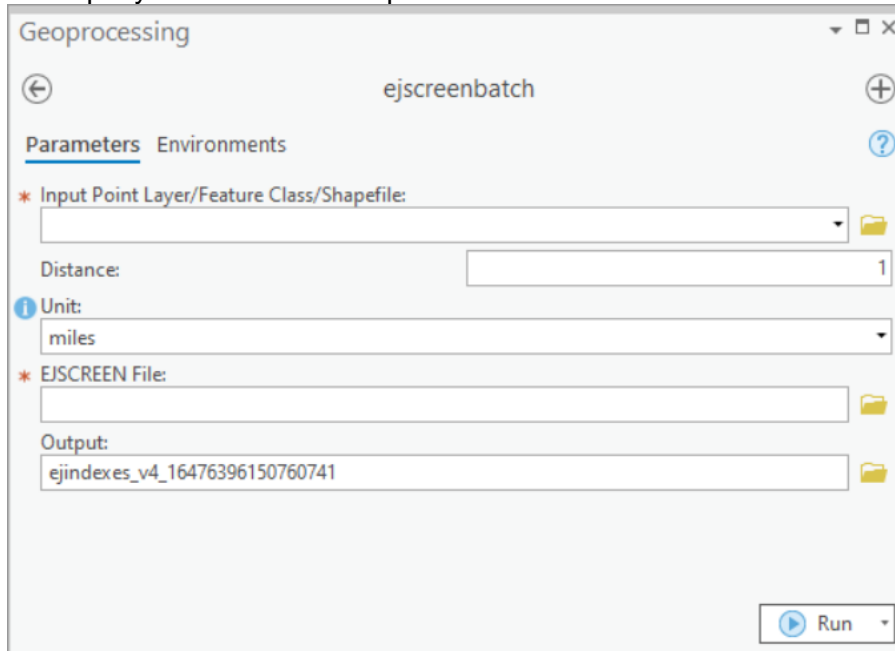
4. Click *OK* to start the tool. A running process dialog pop-up will appear to show the status of the calculation.

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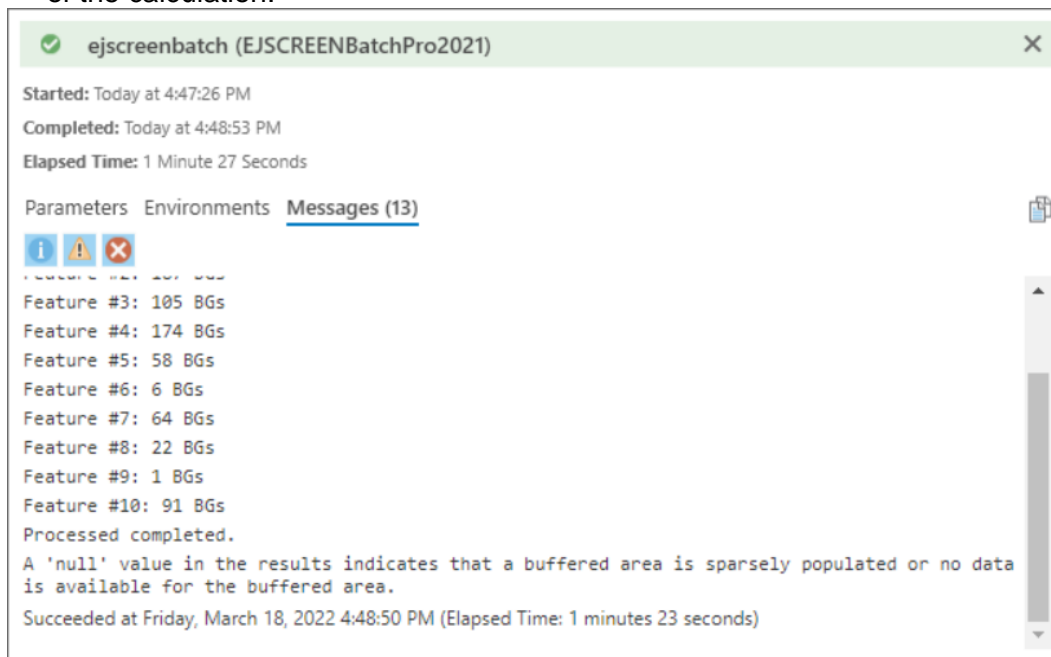
5. If it runs successfully, the resulting layer will be added to the *Contents* pane automatically. Users are then able to examine the EJScreen indicators for each input point. Depending on the size of the input file, it can take from a few minutes to several hours. If an error occurs during a run, please check the logs via *History/View Details*.

Note: The attributes from the source layer are copied to the output layer. EJScreen indicators are appended as additional columns. In addition to the EJScreen indicators, the following five more columns are computed:

- ACSIPOVBAS—Population from whom poverty status is determined
- ACSEDUCBAS—Population age 25 years and over
- ACSTOTHH—total households
- PRE1960—housing units built prior to 1960
- ACSUNEMPBAS—Population age 16 and over and in the civilian labor force

A 'null' value in the results indicates that a buffered area is sparsely populated or no data is available for the buffered area. For an input point that is within a state border, that state is used as the *State Name* for the results. For a point that does not fall within a state border, a buffer is used to query the EJScreen block group data. If block group data intersects the buffer, the first state found in the results is used for the *State Name*. If no records are found, 'N/A' is output to the report and no *State Name* is reported.

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